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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/848,754	05/18/2004	Zhizhang Chen	10007794-11	4651

7590 10/18/2006

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EXAMINER	
LEWIS, MONICA	

ART UNIT	PAPER NUMBER
2822	

DATE MAILED: 10/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/848,754	CHEN ET AL.	
	Examiner	Art Unit	
	Monica Lewis	2822	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 August 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *41-47* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *41-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 May 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the amendment filed August 1, 2006.

Response to Arguments

2. Applicant's arguments with respect to claims 41-47 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 41, 43, 44 and 46 are rejected under 35 U.S.C. 102(e) as being anticipated by Muroyama et al. (U.S. Publication No. 2002/0036452).

In regards to claim 41, Muroyama et al. ("Muroyama") discloses the following:

a) a flat emitting surface (15, 20 and 23) having a first area (For Example: See Figure 16 and Paragraph 139);

b) a first chamber having substantially parallel sidewalls interfacing to the emitting surface (For Example: See Figure 16);

c) a second chamber having sidewalls diverging to an opening having a second area larger than the first area (For Example: See Figure 16); and

d) a cathode layer (11) disposed on both the emitting surface and sidewalls of the first and second chambers (For Example: See Figure 16)(Note: Merriam Webster defines "on" as a function word to indicate position in close proximity with.).

In regards to claim 43, Muroyama discloses the following:

a) the first chamber is formed within an adhesion layer (12) (For Example: See Paragraph 113 and Paragraph 163).

In regards to claim 44, Muroyama discloses the following:

a) the second chamber is formed within a conductive layer (13 and 18) (For Example: See Figure 16).

In regards to claim 46, Muroyama discloses the following:

a) a display device (For Example: See Paragraph 1).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 42 is rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Muroyama et al. (U.S. Publication No. 2002/0036452).

In regards to claim 42, Muroyama et al. fails to disclose the following:

a) the emitter has been subjected to an annealing process thereby increasing the emission capability of the emitter.

Finally, the following limitation makes it a product by process claim: a) "the emitter has been subjected to an annealing process thereby increasing the emission capability of the emitter." The MPEP § 2113, states, "Even though product -by[-] process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process

claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted).

A *"product by process"* claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also *In re Brown and Saffer*, 173 USPQ 685 (CCPA 1972): *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); In re Fessmann, 180 USPQ 324 (CCPA 1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a *"product by, all of"* claim, and not the patentability of the process, and that an old or obvious product, whether claimed in *"product by process"* claims or not. Note that Applicant has the burden of proof in such cases, as the above caselaw makes clear.

7. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muroyama et al. in view of Raina et al. (U.S. Patent No. 6,425,791).

In regards to claim 45, Muroyama fails to disclose the following:

a) an integrated circuit.

However, Raina et al. ("Raina") discloses an integrated circuit (For Example: See Column 1 Lines 39-54). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of Muroyama to include an integrated circuit as disclosed in Raina because it aids in the formation of a display (For Example: See Column 1 Lines 38-47).

Additionally, since Muroyama and Raina are both from the same field of endeavor, the purpose disclosed by Raina would have been recognized in the pertinent art of Muroyama.

8. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muroyama et al. in view of Applicant's Prior Art.

In regards to claim 47, Muroyama fails to disclose the following:

a) a storage device.

However, Applicant's Prior Art ("APA") discloses a storage device (For Example: See Page 1 Lines 14-16). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of Muroyama to include a storage device as disclosed in APA because electron emissions are commonly utilized (For Example: See Page 1 Lines 14-16).

Additionally, since Muroyama and APA are both from the same field of endeavor, the purpose disclosed by APA would have been recognized in the pertinent art of Muroyama.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica Lewis whose telephone number is 571-272-1838. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zandra Smith can be reached on 571-272-2429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300 for regular and after final communications.

ML

October 14, 2006